

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-12 (canceled):

Claim 13 (currently amended): A polymer mixture ~~comprising~~ consisting of:

at least one synthetic first polymer P(i) and at least one second polymer P(j),

wherein the first polymer P(i) has a degree of polymerisation  $DP(P(i)) > 500$  and at least one type of crystallisable sequences A having a degree of polymerisation  $DPs(P(i))$  of these sequences  $> 20$ ,

wherein the second polymer P(j) is made up of the same monomer units as the sequences A of P(i) and the degree of polymerisation  $DP(P(j))$  of P(j) is  $20 < DP(P(j)) < 500$ ,

wherein the polymer mixture comprises a molecularly dispersed mixture containing P(i) and P(j) that forms a network under heterocrystallisation,

wherein P(i) or the sequences A of P(i) comprises a polyolefin selected from the group consisting of a polypropylene, polyethylene, VLDPE, LDPE, LLDPE, HDPE, HMWPE, UHMWPE and mixtures thereof, and

wherein P(j) has a polydispersivity  $< 30$  and is selected from the group consisting of n-alkanes  $C_nH_{2n+2}$ ; isoalkanes  $C_n$ , cyclic alkanes  $C_nH_{2n}$ , polyethylene wax; paraffins and paraffin wax of mineral origin such as macrocrystalline, intermediate or microcrystalline paraffins, brittle, ductile, elastic or plastic microcrystalline paraffins; paraffins and paraffin wax of synthetic origin; hyper-branched alpha olefins; polypropylene wax and mixtures thereof; and

wherein P(i) has a degree of branching  $< 3 \times 10^{-2}$ , and P(j) has a degree of branching  $< 5 \times 10^{-2}$ ; and

wherein the polymer mixture in the form of a thermoplastic melt is prepared by a means selected from the group consisting of a ~~dispersively and distributively acting mixing system~~, a double-screw extruder, a single-screw extruder with mixing section, a Buss-Ko kneader and combinations thereof.

Claim 14 (previously presented): The polymer mixture according to claim 13, wherein under comparable processing conditions of P(i) and of P(i) + P(j) the quotient of the yield stress  $sy(i, j)$  of P(i) + P(j) and the yield stress  $sy(i)$  of P(i),  $sy(i, j)/sy(i)$  is  $>1.1$  and  $<3.0$ .

Claim 15 (previously presented): The polymer mixtures of claim 14, wherein  $E(i, j)$  is  $>1.3$ ,  $sy(i, j)$  is  $> 1.2$  and  $eb(i, j)$  is  $> 1.03$ .

Claim 16 (previously presented): The polymer mixtures of claim 14, wherein  $E(i, j)$  is  $>1.5$ ,  $sy(i, j)$  is  $> 1.3$  and  $eb(i, j)$  is  $> 1.05$ .

Claim 17 (previously presented): The polymer mixtures of claim 14, wherein  $E(i, j)$  is  $>2.0$ ,  $sy(i, j)$  is  $> 1.5$  and  $eb(i, j)$  is  $> 1:10$ .

Claim 18 (previously presented): The polymer mixture according to claim 13, wherein a quotient of the MFI(i, j) of the mixture of P(i) + P(j) and the MFI(i) of P(i),  $MFI(i, j)/MFI(i)$  is  $>1.2$  and  $<500$ .

Claim 19 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is  $>1.5$ .

Claim 20 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is  $>2.0$ .

Claim 21 (previously presented): The polymer mixture according to claim 18, wherein the quotient of MFI(i, j) and MFI(i) is  $>3.0$ .

Claim 22 (previously presented): The polymer mixture according to claim 13, wherein under comparable processing conditions of P(i) and of P(i) + P(j), the quotient of the crystallinity  $K(i, j)$  of P(i) + P(j) and the crystallinity  $K(i)$  of P(i),  $K(i, j)/K(i)$  is  $>1.03$  and  $<3$ .

Claim 23 (previously presented): The polymer mixture according to claim 22, wherein the quotient of  $K(i, j)$  and  $K(i)$  is  $>1.05$ .

Claim 24 (previously presented): The polymer mixture according to claim 22, wherein the quotient of  $K(i, j)$  and  $K(i)$  is  $>1.1$ .

Claim 25 (previously presented): The polymer mixture according to claim 22, wherein the quotient of  $K(i, j)$  and  $K(i)$  is  $>1.2$ .

Claim 26 (previously presented): The polymer mixture according to claim 13, wherein the fraction  $A(j)$  of  $P(j)$  relative to  $P(i) + P(i)$  in wt.% is in the range  $1 < A(j) < 90$ .

Claim 27 (previously presented): The polymer mixture according to claim 13, wherein the fraction  $A(j)$  of  $P(j)$  relative to  $P(i) + P(i)$  in wt.% is in the range  $2 < A(j) < 85$ .

Claim 28 (previously presented): The polymer mixture according to claim 13, wherein the fraction  $A(j)$  of  $P(j)$  relative to  $P(i) + P(i)$  in wt.% is in the range  $3 < A(j) < 80$ .

Claim 29 (previously presented): The polymer mixture according to claim 13, wherein the fraction  $A(j)$  of  $P(j)$  relative to  $P(i) + P(i)$  in wt.% is in the range  $5 < A(j) < 75$ .

Claim 30 (canceled):

Claim 31 (previously presented): The polymer mixture according to claim 13, wherein  $P(i)$  has a degree of branching  $<1 \times 10^{-2}$ , and  $P(j)$  has a degree of branching  $<1 \times 10^{-3}$ .

Claim 32 (previously presented): The polymer mixture according to claim 13, wherein  $P(i)$  has a degree of branching  $<5 \times 10^{-3}$ , and  $P(j)$  has a degree of branching  $<1 \times 10^{-3}$ .

Claim 33 (previously presented): The polymer mixture according to claim 13, wherein P(i) has a degree of branching  $<1 \times 10^{-3}$ , and P(j) has a degree of branching  $<1 \times 10^{-4}$ .

Claim 34 (canceled):

Claim 35 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity  $<20$ .

Claim 36 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity  $<10$ .

Claim 37 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a polydispersity  $<5$ .

Claim 38 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation  $>20$ .

Claim 39 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation  $>30$ .

Claim 40 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation  $>40$ .

Claim 41 (previously presented): The polymer mixture according to claim 13, wherein P(i) and/or P(j) have long-chain branchings which have a degree of polymerisation  $>50$ .

Claims 42-43 (canceled):

Claim 44 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in  $\text{g/cm}^3$  of  $>0.9$ , and a melting or dropping point in  $^{\circ}\text{C}$  of  $>80$ .

Claim 45 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in  $\text{g/cm}^3$  of  $>0.925$ , and a melting or dropping point in  $^{\circ}\text{C}$  of  $>100$ .

Claim 46 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in  $\text{g/cm}^3$  of  $>0.950$ , and a melting or dropping point in  $^{\circ}\text{C}$  of  $>110$ .

Claim 47 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in  $\text{g/cm}^3$  of  $>0.970$ , and a melting or dropping point in  $^{\circ}\text{C}$  of  $>120$ .

Claim 48 (previously presented): The polymer mixture according to claim 13, wherein P(j) has a density in  $\text{g/cm}^3$  of  $>0.980$ , and a melting or dropping point in  $^{\circ}\text{C}$  of  $>125$ .

Claim 49 (previously presented): The polymer mixture according to claim 13, wherein the polymer mixture after preparation is present in the form selected from the group consisting of granules, pellets, powder, macro- or micro-fibres, films, casting, continuous, casting, extrudate, thermo-shaped part and combinations thereof.

Claim 50 (previously presented): The polymer mixture according to claim 13, further comprising a swelling agent for at least one of P(i) and P(j).

Claim 51 (previously presented): The polymer mixture of claim 14, wherein, if there is a fraction A(j) of P(j) relative to P(i) + P(j) in wt.% within the range  $1 < A(j) < 15$ , the quotient of the breaking elongation  $eb(i, j)$  of P(i) + P(j) and the breaking elongation  $eb(i)$  of P(i),  $eb(i, j)/eb(i)$  is  $>1.01$  and  $<1.5$ .

Claim 52 (previously presented): The polymer mixture according to claim 13, wherein  $0.5 \times DP(P(j)) < DP_s(P(i)) < 5 \times DP(P(j))$ .